

What is claimed is:

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1. A nucleic acid sequence defining a set of genetic elements for delivery into a cell comprising:

- a sequence of interest,
- a primer binding site located 3' to said sequence of interest,
- a sequence having enzymatic activity within said sequence of interest, and
- an inverted tandem repeat, said sequence of interest being located either (a) between the inverted tandem repeat or (b) between the inverted tandem repeat and the 3' primer binding site,

said set of genetic elements being incorporated into a vector for delivery to a cell.

2. The set of genetic elements of claim 1 additionally comprising a reverse transcriptase gene.

3. The set of genetic elements of claim 2 wherein said reverse transcriptase gene is selected from the group consisting of the reverse transcriptase genes from Moloney murine leukemia virus, human immunodeficiency virus, or simian immunodeficiency virus.

4. The set of genetic elements of claim 2 additionally comprising a eukaryotic promoter for said reverse transcriptase gene.

5. The set of genetic elements of claim 1 wherein said inverted tandem repeat is designed to form a stem-loop intermediate with said sequence of interest in the loop and said inverted tandem repeat forming the stem.

6. The set of genetic elements of claim 1 additionally comprising a second sequence of interest.

7. The set of genetic elements of claim 6 wherein said second sequence of interest is located 3' to said inverted tandem repeat and 5' to said primer binding site.

8. The set of genetic elements of claim 7 wherein said second sequence of interest additionally comprises a sequence having enzymatic activity.

9. The set of genetic elements of claim 1 additionally comprising a eukaryotic promoter for said sequence of interest.

10. The set of genetic elements of claim 9 wherein the promoter for said sequence of interest is selected from the group of promoters comprising constitutive, inducible, wide-spectrum, or tissue specific promoters.

11. An mRNA transcript produced by transcription of the set of genetic elements of claim 1.

12. A cell having the set of genetic elements of claim 1 delivered thereto by the vector of claim 1.

13. An mRNA transcript comprised of a sequence of interest and including a sequence with enzymatic activity therein, said sequence of interest including said sequence having enzymatic activity being flanked by an inverted tandem repeat, and a primer binding site located 3' to the inverted tandem repeat.

14. The mRNA transcript of claim 13 additionally comprising a second sequence of interest.

15. The mRNA transcript of claim 14 wherein said second sequence of interest includes a sequence having enzymatic activity.

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